19th International Rexx Symposium
27 April – 1 May, 2008
Clarion Raleigh Hotel State Capital – Raleigh, NC USA
Sponsored By The

RexxLA

A Proposed Decimal Format Class for ooRexx

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A Proposed Decimal Format Class for ooRexx

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A Proposed Decimal Format Class for ooRexx

What is a decimal format class?

A decimal formatter allows easy and repeatable formatting of numeric data beyond what is offered by the ~format() method.

This would, most often, provide a means to add a “thousands” separator, plus possible character “padding”.

As a “class” file, the programmer only has to “require” it in their code, and create an instance of the “object”. From there it is simply a matter of setting the desired “attributes” and executing the ~format() “method”.

The addition of currency symbols, positive/negative indicators, and international thousands/decimal separators should also be a part of a “good” decimal formatter.

In the end, a decimal formatter should do much more than simply allow specification of the number of decimal “places”.

A Proposed Decimal Format Class for ooRexx

Who needs it?

Frankly, if you need it, you need it. If you don’t, you don’t. ☺

The only “true” way to know if you need “decimal formatting” is to know what one does and then determine if its “finished product” is beneficial to your “cause”.

A Proposed Decimal Format Class for ooRexx

How did this proposed class come about?

Late ’70s / Early ’80s Hibol programming language

destination = source,mask

Mask was a finite set of symbols that would format the source.

i.e... 339,456.78 = 339456.78,”ZZZ,ZZZ.ZZ” – Crude, but very useful

November ’07 began a discussion thread on the RexxLA list.

Got lots of feedback and even a few “beta testers”.

Looked at several suggested decimal formatters and decided to “model” this one on the Java decimalFormat class.

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What is needed to implement it?

1 A need for it.

2 ooRexx 3.2 or higher

3 A minimal understanding of “object oriented”.

A Proposed Decimal Format Class for ooRexx

What are the methods & attributes?

Methods

formatter = .decimalFormat~**new**(optional pattern)

If pattern is not specified, the default pattern “,.##’ will be used.

a_result = formatter~**format**(number)

Returns a result with “number” formatted according to the set pattern.

a_result = formatter~**getVersion**

Returns the current version of the decimalFormat class

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What are the methods & attributes?

Attributes

groupingSize

get a_result = formatter~groupingSize (Default is 3)

set formatter~groupingSize = numeric whole number

decimalSeparator

get a_result = formatter~decimalSeparator (Default is ‘.’)

set formatter~decimalSeparator = single length character that is not a duplicate of the groupingSeparator.

groupingSeparator

get a_result = formatter~groupingSeparator (Default is ‘,’)

set formatter~groupingSeparator = single length character that is not a duplicate of the decimalSeparator.

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What are the methods & attributes?

Attributes

pattern

get a_result = formatter~pattern (Default is ‘,.##’)

set formatter~pattern = a valid pattern as described below

pPrefix

get a_result = formatter~pPrefix -- Returns the current prefix for a positive number

set formatter~pPrefix = ‘$’ -- Sets the prefix for a positive number

pMask

get a_result = formatter~pMask -- Returns the *mask* portion of the positive pattern.

set formatter~pMask = ‘#,##0.00’ -- Sets only the *mask*

A Proposed Decimal Format Class for ooRexx

What are the methods & attributes?

Attributes

pSuffix

get a_result = formatter~pSuffix -- Returns the current suffix for a positive number

set formatter~pSuffix = ‘ DB’ -- Sets the suffix for a positive number

pGrouping

get a_result = formatter~pGrouping -- Return either .true or .false

set formatter~pGrouping = .true/.false -- Sets the positive grouping to the logical value indicated

A Proposed Decimal Format Class for ooRexx

What are the methods & attributes?

Attributes

nPrefix

get a_result = formatter~nPrefix -- Returns the current prefix for a negative number

set formatter~pPrefix = ‘$’ -- Sets the prefix for a negative number

nMask

get a_result = formatter~nMask -- Return the *mask* portion of the negative pattern.

set formatter~nMask = ‘#,##0.00’ -- Sets only the *mask* portion of the negative pattern.

A Proposed Decimal Format Class for ooRexx

What are the methods & attributes?

Attributes

nMask

get a_result = formatter~nMask -- Return the *mask* portion of the negative pattern.

set formatter~nMask = ‘,0.00’ -- Sets only the *mask* portion of the negative pattern.

nSuffix

get a_result = formatter~nSuffix -- Returns the current suffix for a negative number

set formatter~pSuffix = ‘ DB’ -- Sets the suffix for a negative number

A Proposed Decimal Format Class for ooRexx

What are the methods & attributes?

Attributes

nGrouping

get a_result = formatter~nGrouping -- Return either .true or .false

set formatter~nGrouping = .true/.false -- Sets the negative grouping to the logical value indicated

zPattern

get a_result = formatter~zPattern -- Returns the current pattern for a zero number

set formatter~zPattern = ‘[0]’ -- Sets the pattern for a zero number

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What can be done with it? – Best Answered With Examples

```
-- Grouping applied (df_slide14)
-- 2 decimal places, if needed (input value is rounded)
f = .decimalFormat~new(',.##')
say f~format(1234.567)     --> 1,234.57
say f~format(1234.5)       --> 1,234.5
say f~format(-1234.567)    --> -1,234.57
say f~format(-1234.5)      --> -1,234.5
```

A Proposed Decimal Format Class for ooRexx

What can be done with it?

```
-- Grouping applied (df_slide15)

-- 2 decimal places, even if not needed

f = .decimalFormat~new(',.00')

say f~format(1234.56)      --> 1,234.56

say f~format(1234.5)       --> 1,234.50

say f~format(-1234.56)     --> -1,234.56

say f~format(-1234.5)      --> -1,234.50
```

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What can be done with it?

```
-- No Grouping (df_slide16)
-- leading zero if needed
-- 2 decimal places, even if not needed
-- 1 leading zero, if needed
f = .decimalFormat~new('0.00')
say f~format(1234.56)      --> 1234.56
say f~format(1234.5)       --> 1234.50
say f~format(3/6)          --> 0.50
say f~format(-1234.56)     --> -1234.56
say f~format(-1234.5)      --> -1234.50
say f~format(0 - (3/6))    --> -0.50
```

A Proposed Decimal Format Class for ooRexx

What can be done with it?

```
-- Grouping (df_slide17)
-- 2 trailing zeros, if needed
-- 1 leading zero, if needed
-- US currency
f = .decimalFormat~new('"$",0.00')
say f~format(1234.56)     --> $1,234.56
say f~format(1234.5)      --> $1,234.50
say f~format(3/6)         --> $0.50
say f~format(-1234.56)    --> -$1,234.56
say f~format(-1234.5)     --> -$1,234.50
say f~format(0 - (3/6))   --> -$0.50
```

A Proposed Decimal Format Class for ooRexx

What can be done with it?

```
-- Grouping (df_slide18)
-- 2 trailing zeros, if needed
-- 1 leading zero, if needed
-- Accounting
f = .decimalFormat~new(',0.00" DB";,0.00" CR"')
say f~format(1234.56)      --> 1,234.56 DB
say f~format(1234.5)       --> 1,234.50 DB
say f~format(3/6)          --> 0.50 DB
say f~format(-1234.56)     --> -1,234.56 CR
say f~format(-1234.5)      --> -1,234.50 CR
say f~format(0 - (3/6))    --> -0.50 CR
```

A Proposed Decimal Format Class for ooRexx

What can be done with it?

```
-- Grouping (df_slide19)
-- 2 trailing zeros, if needed - 1 leading zero, if needed
-- Euro currency
f = .decimalFormat~new('"€",0.00;"-€"')
f~groupingSeparator = '.'
f~decimalSeparator = ','
say f~format(1234.56)      --> €1.234,56
say f~format(1234.5)       --> €1.234,50
say f~format(3/6)          --> €0,50
say f~format(-1234.56)     --> -€1.234,56
say f~format(-1234.5)      --> -€1.234,50
say f~format(0 - (3/6))    --> -€0,50
```

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What can be done with it?

```
-- Group positive numbers (df_slide20)

-- No grouping for negative numbers

-- Return [0] for zero values

f = .decimalFormat~new(',0.00;"-"0.00;"[0]"')

say f~format(1234.56)      --> 1,234.56

say f~format(-1234)        --> -1234.00

say f~format(0)            --> [0]
```

A Proposed Decimal Format Class for ooRexx

What can be done with it?

```
-- Group all numbers (df_slide21)

-- Place parentheses around negative numbers

f = .decimalFormat~new(',0.00;"(""")"'')

say f~format(1234.56)      --> 1,234.56

say f~format(-1234)        --> (1,234.00)

say f~format(0)            --> 0.00
```

A Proposed Decimal Format Class for ooRexx

Where can I get a copy?

As is the case with several “transition” projects, the “proposed” ooRexx decimal format class is “hatching” in the incubator. (More on that from Rick on Thursday.)

This project needs beta testers AND more feedback.

If enough interest is shown, and the code is deemed “worthy”, it may be added to a future release of ooRexx.

http://oorexx.svn.sourceforge.net/viewvc/oorexx/incubator/decimalFormat/